

Remarks

1. 35 U.S.C. §101.

Claims 25 and 27 have been amended to recite a “computer readable medium” thereby addressing the Examiner’s 35 U.S.C. §101 rejection. Claims 26 and 28 have been cancelled.

2. 35 U.S.C. §103(a).

New claims 29 to 31 have been added. Basis for claim 29 is found at page 10, lines 14 to 20 of the specification as filed. Basis for claims 30 and 31 is found at page 14, lines 21 to 23. No fee is due since the applicants have already paid for 28 claims.

The Examiner suggests that all the claims limitations of claim 1, for example, are known from Schuster et al (US6822957) save for the fact that Schuster does not disclose a middlebox device in the network. However, the Examiner refers to Huitema (IETF Working Document –MIDCOM Scenarios) as teaching that a middlebox may be a NAT inside a private network. Thus, the Examiner concludes that the combination of Huitema into Schuster would enable the public and private networks of Schuster to recognize and control the NAT as a middlebox. Consequently, in the Examiner’s view, claim 1, for example, is rendered obvious by the combination of Schuster and Huitema.

In the context of the present invention, an address realm is a region of the communications network in which each of the entities within that region have an address or identifier which is unique within that region and which is allocated according to a particular method – page 1, lines 8 to 11.

Schuster teaches a communications network having two address realms, a private or internal network address realm denoted by private addresses of the form 10.0.0.x and a public address or external network address realm denoted by addresses having the form 192.200.20.3 or 198.10.20.30. The internal network address realm comprises a number of devices forming a first computer network 12 having a common external network address 28 (198.10.20.30) to identify said first computer network 12 to an external computer network such as second computer network 30 and/or a third computer network 32. Second computer network 30 is connected to first computer network 12 by a switch 38. Second computer network also has a common external network address 48 (192.200.20.3). In fact, this is the common external network address of a network phone 39 linked to the second computer network 30. It can therefore be concluded that devices linked to second computer network 30 have external network addresses of a common form (same address realm) as the external network address of the first computer network 12 and thus do not require network address translation at the edge of said network 30 in contrast to the internal devices (14, 16, 18, 20, 22, 24) of the first computer network 12 (first internal network address realm) where network address translation is performed by router 26. Schuster is silent on whether the third computer network 32 comprises a further address realm. In any event, for a call connection between say a telephony enabled device 22 in first computer system 12 and network phone 39 of second computer network 30, network address translation need only be performed at the router (NAT) 26 of first computer network 12 but not at the edge of second computer system 30.

The applicants have carefully considered the Examiner's discussion on what he purports Schuster discloses but finds it confusing insofar that the Examiner has not clearly signalled what elements of the system of Schuster he considers are functionally the same as those of the present invention. For example, the Examiner does not identify by way of a reference numeral, for example, what device of

Schuster he considers to be the "first middlebox connected to said one entity in its respective one of the address realms".

Since Schuster only discloses a single NAT, namely router 26 of the first computer network 12, applicants assume that this is considered by the Examiner to comprise the first middlebox (NAT) of claim 1 of the present application. The Examiner has, however, indicated that he considers the NAT control node to comprise item 24 (telephony proxy server) of the first computer system 12 and items 26, 38, 40 and 44 as comprising the NAT identity providing node. Item 26 is the first NAT, items 38 and 40 are switches in the second and third computer networks and item 44 is a link layer of devices 14, 16, 18, 20, 22 and 24 of first computer network 12.

In the following submission, applicants will use the term NAT in place of middlebox for ease of comparison of the present invention with Schuster.

The present invention as defined by claim 1 requires a plurality of NATs, each connected to a plurality of entities in one of a plurality of respective address entities. Schuster does not disclose this feature of claim 1.

The present invention as defined by claim 1 requires that the one of the entities about which information is contained in the control message is connected to the first NAT in its respective address realm. Thus, in Schuster, the one of the entities must comprise any of devices 14, 16, 18, 20, 22 or 24 since the first NAT comprises router 26. However, in the present invention, the NAT control node must be located in a different address realm than that of said one of the entities. However, in Schuster, the NAT control node 24 comprises one of the entities in said same address realm. Therefore, the combination of Huitema and Schuster does not disclose all of the limitations of claim 1.

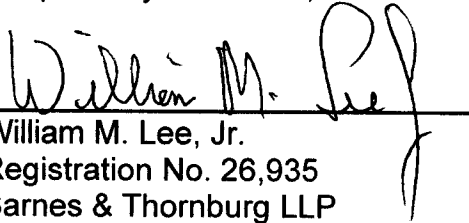
Further, there is no disclosure in Schuster that any of items 26, 38, 40 and 44 (NAT identity providing node) send an identity of router 26 (first NAT) to proxy telephony server 24 (NAT control node). If the Examiner considers that this feature is disclosed then he is requested to point out specifically the section of Schuster that teaches or suggests this feature. From the disclosure of Schuster, applicants cannot derive any reason why any of items 26, 38, 40 and 44 (NAT identity providing node) would send the identity of router 26 (first NAT) to proxy telephony server 24 (NAT control node). In fact, it is clear from the disclosure of Schuster that all of the internal devices 14, 16, 18, 20, 22 and 24 of the first network 12 have prior knowledge of the identity of router 26, so the step of sending the identity of router 26 to any of these internal devices would be superfluous. Therefore, the combination of Schuster and Hujtema does not disclose all of the features of claim 1, for example.

The foregoing is applicable to all of the independent claims.

3. In view of the foregoing, it is respectfully submitted that this application is now in condition for allowance.

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Respectfully submitted,


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